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THE HEATHS AND HOLLOWS OF HOLLAND.

BY

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Holland is often compared to a ship, and all English-speaking people of culture are familiar with the satiric verses of Andrew Marvell, in which this idea is suggested and elaborated. The country draws many feet of water, and one goes on board of it and down in the hold to get at its cargo. As the original ship had no deck, but was first hollowed out, and then, as its evolution proceeded, was built of various parts riveted or nailed together, with floors and compartments, with powers of offence and defence, until we behold to-day the ocean liner and the battleship, so in the growth of the Dutchman's land we trace an evolution almost as wonderful.

This shall be our story this evening: to show by history and geography what kind of a country Queen Wilhelmina's kingdom is —like a ship amphibious, partly in and out of the flood, both dry and wet, surrounded by waters, yet not an island. We shall find that in the midst of the liquid element nature laid something like a keel of hard land, and that by and by man put on the ribs and planks, nailing them together into habitable hollows, yet affording inclosure from the waters and making even a cozy home. In time decks and compartments, with floors and varying levels, were added. Then, when pumps and windmills were erected to keep the hold dry, it looked as though the ship was equipped with masts and sails. When defence was necessary against their ever active enemies, the floods and storms and currents, we see men making their walls thicker, riveting them with piles and buttressing them with piers, jetties and ripraps. Still further, as the nautical man must not only keep his timbers free from barnacles, but also guard against the teredo, or tiny worm, that would honeycomb their substance, so the Netherlanders had to sheathe their land with masses of stone that have almost cost their weight in copper. With new and added dangers from without, the science of defence developed also. The land was armored, and with new possibilities of resistance maintained its life in a higher organization. So to-day we see the miracle of geography—a hollow land in which, as in a ship, the chief wealth of the country is stored down below the level of the sea, while the windmills and lofty church spires that dominate the landscape complete the wonder. Hence we are not surprised in this country, so nautically constructed and built up, foot by foot and yard by yard, to be saluted with the question as a morning salutation, "How do you sail?"

Furthermore, as vigilance is the first virtue and discipline the prime necessity on board a ship, so here we find these maintained in the Netherlands at a high standard. Other nations have but one state—the political structure and sovereignty, but the Netherlands have two states—politics and water. Yet this duarchy is not, as in the case of old Japan and Siam, personal. There is no Mikado and Shōgun, but the Sovereign State and the Water State. Of the former, democratic monarchy as it is, Queen Wilhelmina is the lovely figure-head. In the latter is comprised the general staff of inspectors, engineers, watchmen and commissaries who superintend the great army of toll collectors, sluice, bridge, gate keepers and workmen skilful with the spades, drills, pumps, piles and the machinery driven by steam and wind. This department, which has charge of the preservation of the country from liquid danger, is the chief division in the Ministry of the Water State, Trade, and Commerce.

Or, if we change the figure descriptive of the evolution of the Netherlands as a growth under human direction, we may say that man by his industry, courage, tenacity and faith has transformed a mud-hole into a garden. Indeed, the Dutch in their proverbs rather seem to intimate that God Almighty had only a subordinate part in the making of their country, and that all the glory belongs to man himself. It is thus asserted, with more wit, rhetoric or poetical fervor than with truth (as in the dictum, "God made the sea, but we made the land"), that the Netherlands have been wholly created through human genius and industry; but this, as geologists and engineers know fully, is not true. We must allow nature and the Power that wears physical laws and matter as a garment some credit for the creation of Holland, and in outlining the story we shall look first to times before the advent of man.

Geologists tell us that the western part of the Netherlands was once an inland sea. The English Channel was not then, as now, open, but closed. The inflowing rivers, Scheldt, Maas, Rhine, Ems, Weser, Elbe, brought down from the interior of the continent strata upon strata of gravel and matter in suspension, laying deposits in the shallow basin. It is possible to trace the boundary of this sea, and even learn its depth, by noting the lines of fossil shells. These are found fifteen to twenty feet deep below the level of the ordinary high tide. This sea bottom was deposited upon older diluvial or drift beds. Three distinct æons are noted by the geologist, but that process most interesting and important for Holland's future history was the deposit of the fertile "sea clay" making the three maritime provinces of Zealand and the two Hollands. When the limestone rock which once united Calais and Dover at last gave way, this life-giving substance was still more abundantly deposited over the sandy bottoms. It is this sea clay, as it is called, which makes the soil of Zealand perhaps the richest in all Europe and which gives Zealand and the two Hollands their preponderant agricultural wealth above the other eight provinces.

To-day, looking at the map, we find the fruits of the endless war of wind and wave in the sand dunes. The crescent of islands northward from Friesland and Groningen are the remains of old lines of dunes. Those lining the coast are the bulwarks of the country. Behind these dunes and the gaps or embrasures in them, now closed by dykes, we find low meadows rich in sea clay, and, further back, heaths, sand hills and diluvial strata which are sufficiently above the level of the sea to remain dry. The dunes, though high enough sometimes to be called hills (the average altitude being sixty feet, some rising even to two hundred feet), do not by any means suggest the Rock of Ages or the everlasting hills, or that immovableness which we associate with elevations in nature. On the contrary, the dunes are but heaps of unstable material and have a tendency to move eastward or to drift off on the landward side. This arises partly from the tremendous velocity of the channel current and partly from the strong west winds. At one place, Loosduinen, the old moor or fenland which once formed behind the dunes, can now be found outside of them, overlaid and packed in the sand. The most remarkable proof of the march of the dunes eastward is in the Roman camp at Brittenburg, or Huis te Britten, west of Leyden, which was built in the early Christian centuries inside the dunes. When the Roman legions departed southward, the camp was overwhelmed by hills of sand. After a thousand years of burial it emerged to resurrection, yet was not visible on land but in the water. In 1694 its lines were discerned sixteen hundred paces out to sea. Relatively this fine ruin has been traveling ever since, while the dunes still tumble inward. Furthermore, Katwijk, Domberg, Scheveningen, Egmond and other sea-coast villages have been frequently removed further inland. In our days the Dutch assist in the making of new dunes, carrying by ship or rail vast quantities of the sand from these wind-formed hills for defences in other places against the seas. Netherland is a country whose soil can never be still, but must ever be kneaded and rearranged; yet not a shovelful is wasted, for it cannot be spared.

To-day the Netherlands are protected by nearly sixteen hundred miles of sea dikes and a still larger number of miles of river dikes. Ninety lakes have been drained. By dikes and pumps the Dutch more than doubled the original area of their country as first known in historic times, and they support a population nearly eight times as great as when they first took up arms against Philip of Spain for independence. Their political history, glorious as we read it in the prose epic of Motley, and honorable, in that Holland has been the teacher of nations and the benefactor of the world, has for its most shining chapter that of rescue and defence from water of the richest little country on earth and the demonstration of man's lordship over the elements. To appreciate the achievement, let us glance at it chronologically.

When man first appears upon the scene he was a hunter or fisherman who lived on the German slope, the dunes, or the higher ground deposited in time of flood. A few feet or inches below him were the fenlands, rich in undergrowth and populous with animal life in fin, feather and fur, amid which rose great forests where were numberless pools and lakes. In the sea clay land were here and there dry spaces upon which his tamed animals could graze, and during dry seasons he could take his cattle and pasture them there. By and by, as he became more venturesome and learned how fertile were these beds of sea clay, he cultivated the soil and stored up food for winter. He brought clay from the space around his hut, gradually elevating its foundations a few feet above the surrounding waters, in time making his mound habitable even in time of flood. As men associated together in enterprise and labor, there appeared upon the landscape the *terpen*, or artificial mounds of larger size, which the traveller notes on the landscape of Friesland, Groningen and Zealand. These, in the evolution of history, became the bases of towns and villages, the Groote Kerk standing in the middle. Or, the original *terp*, if unbuilt upon, was made the burg or fortress, as in Leyden. Linguistically the word is related to *dorp* or *dorf*, meaning village. To-day the archæologist finds in excavating these terpen a number of strata representing the various eras of civilization. At the top are the modern buttons, bits of crockery and wastage of picnic parties. Further below, the rake or spade gathers up mediæval images, coins, crosses and relics.

Still further down are the tools, jewelry and personal possessions of the mediæval Frisians, Angles, Saxons and other tribes. Next in revelation are the images of Mars and Venus and things of Roman use and ornament, of war and of peace. Last of all we find the stone combs and bone needles of primitive man. Modern science also shows these terpen to be rich in animal deposits, and, being composed of these and the prized sea clay, the substance of terpen when cut down and carted away is sold for so much a ton as a rich top dressing for sandy land, yielding in some cases a small fortune to the owner.

Further back from the sea clay lands of the coast and sloping upward toward Germany are the sand hills; and in North Brabant, Guelderland, Overijssel and Drenthe are vast heaths of this infertile substance. Large parts of North Brabant have only stains or patches of vegetation, with not a little morass, the fertile portions in the sea deserts being oases of clay soil. Every one knows of Batavia and the Batavians, whose name comes from the Betuwe, that is, the better or the good land or island, well watered, rich in river alluvium and sea clay and known from the dawn of history to be fertile. North of the Betuwe, in Guelderland, is a great Veluwe or vile land, a perfect wilderness of sand, which it is hopeless to try to cultivate or fertilize. This barren "island," stretching between Arnheim and Zwolle, the Rhine and the Zuyder Zee, is traversed from east to west by a railway, and right in the western centre is Het Loo, the palace of Dutch royalty. Similar sterile plains, or rolling land, unstable as water, and never excelling, are found in Overijssel, while Drenthe is nearly all sand. Yet, at Coevorden, which means Oxford or Bosporus, between the two areas of sterility and hopelessness—that is, hopeless to anybody but a Dutchman, for he is now busy in draining and reclaiming them—the great Bourtanger morass and the Drenthe barrens, a strip of hard ground forms the gateway into and from Germany. In Roman and in all other times, since "geography is half of war," Coevorden has been a defensive frontier fortress; while again, to illustrate the truth that, in these Low Countries, sand is death and clay is life, only a few miles away from Coevorden are the green fields of Dalen, with their pretty houses and sleek cattle. And this because here is a dot of clay soil.

It is in Drenthe, perhaps contemporaneous with the terpen, that we find the first structures raised by men, who may have been the Cimbrian Celts. With their rude levers and rollers they gathered together into semblance of order the boulders brought down by

Scandinavian glaciers in the Ice Age, rearing edifices which whether they are tombs or altars the learned are not yet agreed. Tradition, as rich as moss on the unrolling stone, names these Hunebedden or giants' graves. On the soil of Drenthe there are about sixty of these groups of boulders, the most striking being at Rolde and Zuidlaren.

While the five maritime provinces of the Low Countries illustrate the hollows, the six inland provinces illustrate the heaths. To the artist and to the lover of the picturesque in nature the charms of the heaths are as great as are the hollows to the engineer and student of civilization. The wild flowers that win their life where there is moisture, the inconspicuous blooms and the lower types of vegetable life in the peat beds and turf, furnish marvellous effects in color and beauty. At sunrise and sunset, especially when the prismatic tints of the dew pierced by the sun's rays add their reinforcement of color, there seems to be a gloss of glory that makes these heaths like the Field of the Cloth of Gold. In the marked alterations of tint and hue caused by slanting sun rays and varying measures of sunlight there are effects which are to the eye what sweet music is to the ear. I can testify to many pleasant hours spent in these solitudes. Certain it is that artists from all parts of Europe come hither to feast their vision and take delight in these lonely places.

When the first light of history falls upon heath and hollow in the Low Countries, we find that the rude engineering of the people whom the Romans found in the land has been supplemented by the work of masterful men, who needed camps and military roads and improved water communication to hold the people whom they had conquered true to their allegiance. Their works, with spade, hammer and trowel, are mostly associated in local tradition with Drusus and Corbulo, but no one can say exactly where the grachts or canals cut by them are now located. Not a few places in the Netherlands bear names that are but modifications of the original Latin, or Latinized Keltic or Teutonic words, such as Vianen, or Fanum Dianae, Nymegen or Novio Magnum, Doesburg or Drusus Burg, Leyden or Lugdunum, etc. Other things borrowed from the Romans, either during their occupation or later, are seen in the terminations or the words meaning canal, street, port or gate, wijk (from vicus), etc.

During five centuries, the Frisian terp, the Teutonic mark and the Roman farm, camp or villa adjoined. While with temples and altars there were towers, fortifications, camps, roads and canals, yet the Netherlands resembled for the most part a frontier region, the lowest and the most watery in the Empire. Whatever the Roman's impress may have been upon the landscape, his works were not only given to neglect or destruction by the overstreaming of the nations from the North and West, but were overwhelmed with the wind-driven sand or the overflowing sea and river. This new top dressing of humanity under Christianity brought in the Middle Ages, or that period between the Roman engineering and civilization and the rise of brickmaking and the building of dikes and dams.

From the sixth to the eleventh century very little was done to change the general surface of the land, though much improvement was secured in favored places. It is interesting to glance at a mediæval map in order to see how great have been the triumphs of man, the lord of the soil, in the seventeenth and especially in our own century. Walcheren in Zealand, now a single island, was once a dozen islets. Much of what is now South Holland was under water, and in what is now the province of North Holland, where are to-day shining green fields rich in cattle, was a network of pools, lakes and broad, sluggish streams and lagoons. Zealand had more islands in it than it has to-day. It is further interesting to note where were the towns, villages and churches, showing that here, at least, were the points of hard lands where human beings could live socially together. We may imagine the whole country as a great flat delta formed by the deposits of the continental rivers. For the most part, certainly along the coast and in the southern river district, were hollows or bowls filled with water, both salt and fresh, with here and there little islands standing out on which were towns and villages. On the western side, toward Germany, were great sandy deserts, and vast, gloomy morasses. Between the two sections of heath and as yet undrained hollows spread the Lake Flevo, of Roman name. All the rivers, or streams with currents, flowed from east to west, except one which joined the waters of the Rhine to those of Ijssel. All the time the shape of the country was being altered by the ceaseless action of the water, in storm and flood, wind and current, rain and tide. In the thirteenth century, by a great influx of the sea, eastern and western Friesland were separated and the Zuider Zee was formed, making secular differences in manners, customs and language. To-day, after six centuries, the Dutch have decided to drain the land and drive out the intruder. The twentieth century will see the work done.

With the new movements of society, caused largely by the Crusades, with the stimulus to intellect, inventions, manufactures and commerce given by the meeting of nations and contact with the rich East, we find toward the twelfth century serious efforts made to keep out the waters of sea and river, to extend the area of arable and pasture land—in a word, a beginning towards the making of the country as it is to-day. The introduction of the windmill was a powerful factor in attaining this through the saving of human labor. From being a rigid and immovable structure, always facing one way, it has been so modified by the Hollanders that by means of a movable cap and windlass the sails may be set to face any wind, and the sails on the spars or arms may be furled or spread at pleasure. The windmill is now of manifold assistance to men, for it can pump, grind, hoist, lower, work the screw or the scoop wheel and serve as storehouse or dwelling.

The building of barriers against the sea began in earnest after the twelfth century. For the first time we note upon the map the names of places ending in "dam" and later those ending in the name dike. There is a distinction, with something like a real difference, between the two terms. The dam is usually the protection of one farm, village, castle or town; it may be circular or square, an enclosure of some sort. A dike is a dam, but it is longer, and often stretches from one town to another, or it fills the whole gap between the separate dunes or encloses a whole island or many islets, making one unit of hard land. Again, it is the backbone of a whole district of country. So also between "gracht" and "canal" we discriminate. We find a gracht a moat, a private or municipal ditch. A canal is a waterway, a national or provincial highroad, connecting cities of sea and river, and usually many leagues long.

By the fifteenth century it was borne upon the minds of the Dutch people, stimulated by good rulers, the idea that their country might be greatly enlarged and enriched by unity of effort. To use their own mottos, "Eendracht maagt macht," unity makes strength, and "Concordiā parvæ res magnæ crescunt," by concord little things become great. They have not yet reached the determination to reclaim land on a large scale, or come to the making of polders by pumping, but there are being invented the tools which are to do the work. Well says Marvell:

> "Among the blind the one-eyed blinkard reigns,
> So rules among the drowned he that drains;
> To make a bank was a great plot of state,
> Invent a shovel, and be a magistrate."

Either by original invention, or by adoption and adaptation, we behold in the Netherlands above every land in Europe rapid evolution of brick and tile making, the plough, pile driver, pump, windmill, drill, stove, dredge, mud scow, submarine mattress, canal locks, and ship's camel, with new methods of diking and general improvement in hydraulic and hydrostatic science. The distinction is made between the outer waters of sea and rivers and the inner waters caused by rainfall, especially in the peat pits. The unstable land is riveted together by piles, and whole forests are imported and planted head downward, the people living on top of timber that was once nearest to the roots. In Dutch architecture the piles are as the men, giving solidity; the superstructure as the woman, making grace and beauty. But if the houses are to their piles underneath what wives are to their husbands, they thrive or suffer according as the former are steady and keep their position or sway and lose equilibrium. Do women lose grace and charm according as their supports are deranged? So do the Dutch houses. They have to be held together with rods and shores, or laced with braces and anchors, so that we often see in old Dutch houses what suggests stays or corset, or an iron frame such as we now build of steel inside houses, before putting on the outward clothing of brick or stone. Think of the mighty forests buried head downward in the soil of Holland, the billions of trees and poles driven in to pin and hold things together! Sometimes it costs more, not to lay but to drive a foundation, than to build a house, more for the under than the superstructure. As a rule, cellars are not known in maritime Holland, though basements, with their tiled walls and well-cemented floors, are common.

In the work of defending the country with dikes, the monasteries often took part at first, paying the expenses or eking out funds secured by taxes. The stadholders or king's lieutenants often made noble names for themselves in rousing public spirit to wall with turf and timber the hollow land against storms and floods. About the sixteenth century began also the building of jetties to strengthen the dikes in resisting the ocean. It was probably not, however, until the seventeenth century that the work of draining the lakes and wresting land from the sea by means of dikes and pumping was seriously or systematically undertaken. In North Holland, however, with funds provided by stock companies, led by Usselincx, that made their money by selling off the land recovered to cultivation, or by utilizing the booty fished up by Dutch divers from the Spanish ships, the work of making large polders was inaugurated on a large scale and has continued during three centuries. Where was once lake and morass we have now farms, villages and towns, and cows feed where the fishes once did. So rapidly in some cases was the work done that the town arms represent the mermaids as being surprised and put to great inconvenience by the sudden change in their element. Waking up from their naps, they vainly try to get out to sea through the sluice gates. To-day the great Beemster polders create, in discerning tourists, the highest admiration.

The cutting of canals and means of communication between town and city, facilitating inland commerce, went on apace, while the digging of turf for fuel became a national industry. The riches brought to the Netherlands by foreign commerce were utilized to reclaim and enrich the native land of the explorers, whose flags were mirrored on every sea of the world. Yet, while the ships from the Orient brought back spices and gold, and many rare and precious treasures, they also imported one execrated though tiny immigrant, and for awhile the boldest people in Europe felt like a lion with a gnat stinging his nostril. This enemy, no bigger than a pin-head when it begins business and earns a living for itself, caused as great a revolution in the making of dikes and dams as gunpowder had caused in the equipment of the soldier. Yet, whereas the steel-clad knight had perforce to doff his panoply and be content with cloth, the Dutchman had to change his dikes from wood to stone. The new and dreaded intruder was the teredo, a tiny worm which needs only the space of a pin-head for its days of babyhood, but which soon grows to be inches in length, and for activity and effectiveness can give points of profit to the steam rock drill and diamond perforator. The little creature bears no malice to man, but, in search of his food only, he perforates and cuts long tunnels in the hardest wood, quickly honeycombing and destroying keel, stanchions, ribs and planks. Using the salt water as a lubricant, he works his stony head like a universal ball joint-bearing file, drills and reamers and renders useless the toughest defences which the forest can furnish. The solid beams and piles set for the defence of the Low Countries, bolted together as they were with iron, were found to be eaten through and through. When the Dutch people discovered this state of affairs along the coast they were more frightened than when the hosts of Alva or Louis XIV. invaded their soil and beleaguered their cities. So after fasting and prayer before God they rose up to work. Whereas the old material for the making of dikes was of earth and turf faced with wood or osier work, and only occasionally of brick, especially in the city canals, it was now necessary to seek in Scandinavia and Germany for a new suit of armor. They imported whole fleet-loads of Norway stone, basalt and granite, with limestone from Belgium and many varieties of teredo-proof rock from Germany. They also learned to improve the form of the dikes, so sloping them at the correct angle that the force of the waves was broken upon the bed of water itself. This is done, not by opposing a perpendicular face or wall against the billows, but by laying down, far out on the sea bottom, mattresses of osier work filled with rubble or beds of tough clay, on which slope the stone is rammed, making an inclined plane, on which the waves are made to waste their force and thus destroy themselves before reaching the top of the dike. Improving their pile drivers and other tools, the Dutch became exceedingly skillful in the work called zinkstuken, that is, in the making of large mattresses of wattle work and timber that would float until loaded with turf and stones, and then, at the right moment and in exactly the right place, be sunk under the waters to form the bedding upon which the stonework could rest. So soft and treacherous is the sandy bottom that unless piles in great numbers are driven very deep it is not worth while to heap up heavy masses of stone, and the better way is to make a bed of clay or mattress work and rest the basalt columns or pieces upon this. In some places, however, where the water is very deep, ripraps are made by sinking granite blocks pell mell, to protect the ends of the jetties which are placed at right angles to the shore line to strengthen the dikes. These jetties are from one hundred to three hundred feet apart and are sometimes nearly five hundred feet long, besides having sixty or eighty feet of ripraps at the sea end. In front of the famous Petten and Hondsbossche dikes at North Holland we find these outriggers of stone six and seven hundred feet long tipped with eighty feet of riprap work.

With such a variety of level in the country, and with so many heaths and hollows, it is necessary to have some standard level. This is found at the chief city, and is called the Amsterdam pijl, zero, or level, or is usually written or spoken of as the A. P. On the maps of the country made by the Water State, we have the levels of various farms, polders and watercourses expressed in metres or fractions thereof, according to the height above or the depth below A. P. The whole water system is also utilized for national defence, for in case of armed invasion by enemies it is possible to flood large portions of the richest provinces of the kingdom. What has been done in the days of William the Silent and William III. against Alva and Louis XIV. can be done again, if necessary, in the days of Wilhelmina. That the Dutchmen are quite ready to do it may be illustrated, at least, from an incident which took place shortly after the Franco-Prussian war. When some German newspaper intimated in a cartoon that, unless the Dutch Government did so and so, the Uhlans would be seen as the picture showed, riding down the streets of the Hague, the next week a Dutch newspaper came out with a cartoon, without one word of text or explanation, showing the Uhlans with four inches of water above the tip of their helmet spikes.

Yet, despite all the wonderful things that a Dutchman can do, he cannot make the wind blow when Boreas is not in the mood for work. It has been shown that in each year there are only 130 full days of twenty-four hours which have sufficiently strong winds for working the mills, and although the windmill is still useful and to it the Dutchman must ever have a feeling of gratitude as one of the makers of his country, yet its day is over. Few new windmills are built either in brick or timber. The steam pumps have taken the place of the windmills, and many portions of the Netherlands that were once malarious are now drained and kept dry by them. Indeed it is because the Dutchmen have been helped by steam that their record of drainage and reclamation of land has been so wonderful during this nineteenth century. From 1833 to 1877, the increase was from 8.768 to 12.731 square miles of area. In the days of the Pilgrim Fathers, Haarlem Lake, covering 45,000 acres, was a large body of water with room for fleets to manœuvre in, and over which their boats floated to Leyden. This body of water, typical on account of its size and shallowness, not only covered much valuable sea-clay land, toward which the Dutchman always casts a jealous eye, but in time of storm was exceedingly dangerous to the towns and cities on its banks. The violent wind, blowing long, would drive the waters beyond their bounds, flood the farm lands and menace Amsterdam and Leyden. So it was determined to throttle the dragon,drive out his mermaids, and actualize the dream of Leighwater, dreamed two centuries before, who needed 168 windmills for the work. Three great steam engines, named after famous Dutch engineers, pumping night and day during four years, from 1848 to 1852, lifted 800,000,000 tons of water into the sea, and the lake disappeared. Villages, farms, gardens, fruitful fields, flower beds and hedges, are now on the solid lake bottom. Within the 41,675 acres won to cultivation are 130 miles of roads and canals, 70 bridges, and about 12,000 people. The precious sea clay, making the best bulb land in the world, returns a larger annual revenue to its owners than almost any other part of the kingdom. Other lakes were drained and vast polders regained to agriculture, making the record of the nineteenth century very wonderful. The polders made from the Y River cover 12,540 acres.

The work of keeping the proper equilibrium between the outer and the inner waters of the country is one that admits of no relaxation of energy or vigilance for a single moment, and the details of dike building, and of canal and ditch cutting for the proper outlet and supply of the waters are of fascinating interest. It actually comes to pass in some dry seasons, when "the river of heaven which is full of water" withholds its supply from the skies, that the direction of the pump screws has to be reversed and fresh water has to be lifted from the rivers to give vegetable and animal life its proper supply. Oftener, however, the skies weep too copiously, and how to wipe off the celestial tears from the landscape is the Dutchman's problem. Infiltration is another frequent cause of danger to his farm.

Such being the history of man's conflict with the water, which furnish him his problems, conflicts and friendships, his help and his harm, it is not wonderful that the story of struggle and triumph, victory and defeat, is mirrored not only in the language and proverbs, but also the art and graphic symbols of the country, and in the habitual action of the minds of the men who lived in this hollow land. The people are like their dwelling place. History has demonstrated that it is not wise for arbitrary rulers to trifle with the people who have been for a thousand years fighting the waters, and liable to be drowned day and night, unless ceaselessly vigilant and prepared for danger. The everyday talk of Mynheer bristles with references to dikes and dams, windmills and polders, bridges and canals, and well-flavored with the salt of wit that reflects the natural environment is the written and the spoken language. In proverbial speech we see "the sheep over the dam," and it is beyond the dike or the bridge that the little Dutch Bo-peep must go to find them. The untested courage of the dog is always greatest and his bark "loudest on his own dam." In Holland the proverbial obstacle in the way is not a wall nor a lion, but a dam. Does a man do his work well? Then it is said that "he has laid a good dam." In parenthesis, we remark that this word dam—spelled without an *n*—has no suggestion of profanity to a Dutchman's ear. Thus a great deal of English fun and many American jokes lose their point and flatten on his tympanum, for he pronounces the word with a long *a* as in father, *i. e.*, Amsterdam, Dubledam. Instead of the nullity which "butters no parsnips," or the tool that "cuts no ice," in

Holland it is that which "brings no sods to the dike." "Who will not dike must retreat before the waters." The "hustler" is a "diker." Men with an unusually good appetite are "polder jongen" or polder boys, and such a man "eats like a diker." The well-to-do farmer has "his sheep on the polder," or "he sits on a droogje;" that is, a dry place, he has a soft snap, a snug berth. Of one in authority it is said he is "the boss of the polder-gasten," or workmen.

On the Dutch Thanksgiving Day the native may say, "Our land lies in a polder."

Perhaps no country is richer in heraldry, armorial bearings and especially in town arms or the graphic symbols which in themselves often tell the story of local history. It is astonishing how many of these *wapen*, or town arms, have upon them the waves or lines representing water, the fishes that have been displaced or serve for food or revenue, the shells, aquatic birds, mermaids, polders, turf bricks or heaps, or the tools by which the wet land has been made dry or conquered from the sea. In one case the mermaid holds up her hand in surprise and despair because men have won her domain to uninhabitable dryness before she could awake. One polder's blazon is a hand rising from the waves holding a cornucopia. The clover leaf and wheat sheaves are the quarterings upon a shield above the legend meaning, "Out of the waves." While old towns on the heaths and especially on the western dry land glory in the saints and the mitred and crosiered lords spiritual, with all ancient heraldry of lords temporal, of dragon, lion, crowned eagle and other symbolism borrowed from mythology, most of the insignia of the communities in the hollows, or won from the waters, show traces of or reveal clearly their engineering history. Probably the most eloquent of all, which also tells the whole nation's story to eye and ear, is that of Zealand. We see a lion struggling out of the waves and semi-fluid land to be free. His head, fore paws and part of his body show strenuous but progressive activity, yet exertion is still necessary, and underneath is the motto, "Luctor et emergo"—"I struggle but I rise." So has the whole story of this land of heaths and hollows been one of constant toil, but also of victory that sublimely shows how man has conquered nature. Yet while on the surface of jest and badinage the natives may assert that they have made the land they live in, their deepest feelings are expressed in that emblem, long ago chosen to express the faith of the Netherlander, who though he write the motto "Eendracht maagt macht," "Unity makes strength," puts alongside of it, or rather above it, the legend containing his own older, profounder and more enduring sentiment, *Nisi Dominus frustra.*